

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#4  
RECEIVED

SEP 10 2001

TECH CENTER 1600/2900

Applicant: Cantor *et al.*

Serial No.: 09/880,988

Conf. No.: 5954

Filed: June 13, 2001

For: **USE OF NUCLEOTIDE ANALOGS IN  
THE ANALYSIS OF OLIGONUCLEOTIDE  
MIXTURES AND IN HIGHLY  
MULTIPLEXED NUCLEIC ACID  
SEQUENCING**

Art Unit: 1645

Examiner: Unassigned



I hereby certify that this paper and the attached papers are being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Commissioner for Patents  
Washington, D.C. 20231, on this date.

09/04/01

Date

Kelly Fischer

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Preliminary to examination of the above-captioned patent application, please amend the application as follows:

**IN THE SPECIFICATION:**

Please amend the specification as follows (a marked up copy of the amended specification is attached to this Amendment):

**Please replace the paragraphs on pages 12, line 4, to page 14, line 13, with the following:**

AI  
Figure 1a-b shows that when a single spectrum is used to analyze the products of a conventional Sanger sequencing reaction, where chain termination is achieved at every base position by the incorporation of dideoxynucleotides, the base sequence can be determined by calculation of the mass differences between adjacent peaks (Figures 1a and 1b).

Figure 2a-b shows implementation of forced mass modulation using mass-matched deoxynucleotides. Figure 2a is a simulated mass spectrum showing the products and molecular masses of a reaction carried out with a suitable polymerase in the presence of a mass-matched nucleotide set ("dN") and the